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› NAKAMICHI NHMD100.4 4CH Class-D Power Amplifier User Manual

Nakamichi NHMD100.4

NAKAMICHI NHMD100.4 4CH Class-D Power Amplifier User Manual

Model: NHMD100.4

INTRODUCTION

Thank you for choosing the Nakamichi NHMD100.4 4-channel Class-D Power Amplifier. This manual provides essential information for the proper installation, operation, and maintenance of your amplifier. Please read this manual thoroughly before attempting installation or operation to ensure optimal performance and safety.

SAFETY INFORMATION

- Always disconnect the vehicle's negative battery terminal before making any electrical connections.
- Ensure all wiring is properly routed and secured to prevent damage or short circuits.
- Use appropriate gauge wiring for power and ground connections as specified in the installation section.
- Avoid mounting the amplifier in locations exposed to direct sunlight, excessive heat, moisture, or dust.
- Do not open the amplifier casing. There are no user-serviceable parts inside. Refer all servicing to qualified personnel.
- Ensure adequate ventilation around the amplifier to prevent overheating.

PACKAGE CONTENTS

Please check the contents of your amplifier package:

- Nakamichi NHMD100.4 4CH Class-D Power Amplifier
- Mounting Hardware (screws, washers)
- User Manual (this document)
- Remote Bass Control (if included with your model)

PRODUCT OVERVIEW

The Nakamichi NHMD100.4 is a compact and powerful 4-channel Class-D amplifier designed to deliver high-fidelity audio performance in your vehicle. Its Class-D topology ensures high efficiency and reduced heat generation, allowing for a smaller footprint without compromising power output.



A black, rectangular Nakamichi NHMD100.4 4-channel Class-D power amplifier with a brushed metal finish. The Nakamichi logo is visible on the top surface. Connection terminals are visible on one end, indicating power, ground, remote, and speaker outputs.

Key Features:

- 4-Channel Class-D Amplifier
- High Power Output: 100W x4 @ 4ohm, 125W x4 @ 2ohm, 200W x2 @ 4ohm (bridged)
- Wide Frequency Response: 20Hz-20KHz
- High Signal-to-Noise Ratio: ≥ 90 dB
- Adjustable Sensitivity: 0.15V~8V
- Low Distortion (THD): $\leq 0.1\%$

INSTALLATION AND SETUP

1. Mounting Location

Choose a mounting location that is dry, well-ventilated, and protected from direct sunlight or excessive heat. Common locations include under a seat, in the trunk, or behind a panel. Ensure the amplifier is securely mounted to prevent movement during vehicle operation.

2. Power Connections

- **Power (BATT+):** Connect a heavy-gauge power cable (e.g., 8 AWG or 4 AWG depending on total system power) directly from the positive terminal of the vehicle's battery to the amplifier's BATT+ terminal. Install an in-line fuse holder with an appropriate fuse (not supplied) within 18 inches (45 cm) of the battery.
- **Ground (GND):** Connect a heavy-gauge ground cable of the same size as the power cable from the amplifier's GND terminal to a clean, unpainted metal surface of the vehicle chassis. Ensure a good electrical connection by scraping away any paint or rust.
- **Remote (REM):** Connect a smaller gauge wire (e.g., 18 AWG) from the amplifier's REM terminal to the remote turn-on output of your head unit. This wire turns the amplifier on and off with your car stereo.

3. Audio Input Connections

Connect RCA cables from your head unit's pre-amp outputs to the amplifier's RCA input jacks. For a 4-channel amplifier, connect front left/right outputs to channels 1/2 inputs and rear left/right outputs to channels 3/4 inputs.

4. Speaker Connections

Connect your speakers to the amplifier's speaker output terminals. Ensure correct polarity (+ to + and - to -) for each speaker. The NHMD100.4 supports both stereo and bridged configurations:

- **Stereo Mode:** Connect one speaker per channel (e.g., Front Left to CH1, Front Right to CH2, Rear Left to CH3, Rear Right to CH4).
- **Bridged Mode:** For higher power output to subwoofers or specific speakers, channels can be bridged. Refer to the amplifier's terminal markings for correct bridging connections (e.g., CH1+ and CH2- for one bridged output). Ensure the speaker impedance is suitable for bridged operation (typically 4 ohms minimum).

5. Initial Settings

- **Gain Control:** Start with the gain control set to minimum. Gradually increase it until the desired volume is achieved without distortion.
- **Crossover (HPF/LPF):** Adjust the High-Pass Filter (HPF) or Low-Pass Filter (LPF) settings according to your speaker type and system configuration. HPF is used for full-range speakers to block low frequencies, while LPF is used for subwoofers to block high frequencies.

WIRING DIAGRAM (CONCEPTUAL)

Below is a conceptual representation of typical wiring for a 4-channel amplifier. Always refer to the specific terminal markings on your NHMD100.4 amplifier for precise connections.

Power Section:

BATT+ → Vehicle Battery Positive (with in-line fuse)

GND → Vehicle Chassis Ground

REM → Head Unit Remote Turn-On Output

Input Section:

RCA Input (CH1/2) → Head Unit Front RCA Output

RCA Input (CH3/4) → Head Unit Rear RCA Output

Output Section (Stereo Example):

CH1 (+/-) → Front Left Speaker

CH2 (+/-) → Front Right Speaker

CH3 (+/-) → Rear Left Speaker

CH4 (+/-) → Rear Right Speaker

For bridged configurations, consult the amplifier's specific terminal labels, which typically indicate which positive and negative terminals to use for a single, higher-power output.

OPERATING INSTRUCTIONS

Once properly installed and wired, operating your Nakamichi NHMD100.4 amplifier is straightforward:

1. Ensure all connections are secure and correct.
2. Turn on your vehicle's ignition and then your head unit. The amplifier should power on automatically via the remote turn-on wire, indicated by a power LED.
3. Play audio through your head unit at a moderate volume.
4. Carefully adjust the gain controls on the amplifier. Increase the gain slowly until the sound is clear and loud without audible distortion. If distortion occurs, reduce the gain.
5. Fine-tune crossover settings (HPF/LPF) to optimize sound quality for your specific speakers and listening preferences.
6. If your amplifier includes a remote bass control, use it to adjust the subwoofer level conveniently from the driver's seat.

MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your amplifier:

- **Cleaning:** Periodically wipe the amplifier's exterior with a soft, dry cloth to remove dust. Do not use harsh chemicals or abrasive cleaners.
- **Connection Checks:** Annually, or if you notice any audio issues, check all power, ground, remote, RCA, and speaker connections to ensure they are tight and free from corrosion.
- **Ventilation:** Ensure that the amplifier's cooling fins are not obstructed by debris or other objects, maintaining proper airflow for heat dissipation.

TROUBLESHOOTING

If you encounter issues with your Nakamichi NHMD100.4 amplifier, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Amplifier does not turn on (no power LED)	<ul style="list-style-type: none"> ◦ Blown fuse (in-line or internal) ◦ Loose or incorrect power/ground/remote connection ◦ Faulty remote turn-on signal 	<ul style="list-style-type: none"> ◦ Check and replace fuse if necessary. ◦ Verify all power, ground, and remote wires are securely connected and have proper voltage. ◦ Test remote wire for 12V when head unit is on.
No sound output	<ul style="list-style-type: none"> ◦ RCA cables disconnected or faulty ◦ Speaker wires disconnected or shorted ◦ Gain set too low ◦ Head unit volume too low or muted 	<ul style="list-style-type: none"> ◦ Check RCA connections at both head unit and amplifier. ◦ Verify speaker wire connections and check for shorts. ◦ Increase amplifier gain gradually. ◦ Increase head unit volume and check mute settings.
Distorted sound	<ul style="list-style-type: none"> ◦ Gain set too high ◦ Improper crossover settings ◦ Speaker impedance mismatch ◦ Damaged speakers 	<ul style="list-style-type: none"> ◦ Reduce amplifier gain. ◦ Adjust HPF/LPF settings. ◦ Ensure speaker impedance matches amplifier's capabilities. ◦ Test speakers with another amplifier if possible.
Amplifier overheats and shuts down	<ul style="list-style-type: none"> ◦ Insufficient ventilation ◦ Speaker impedance too low ◦ Prolonged high-volume operation ◦ Internal component failure (e.g., burnt resistor) 	<ul style="list-style-type: none"> ◦ Ensure adequate airflow around the amplifier. ◦ Verify speaker impedance is within specifications. ◦ Reduce volume or allow amplifier to cool. ◦ If persistent, seek professional service.

If these troubleshooting steps do not resolve the issue, please contact Nakamichi customer support or a qualified car audio technician.

SPECIFICATIONS

The following specifications apply to the Nakamichi NHMD100.4 4CH Class-D Power Amplifier:

- **Amplifier Class:** Class-D
- **Amplifier Channels:** 4 CH
- **N-Power Output @ 4ohm:** 100W x4
- **N-Power Output @ 2ohm:** 125W x4

- **N-Power Output @ 4ohm (bridged):** 200W x2
- **Max Power:** 2500W
- **Frequency Response:** 20Hz-20KHz
- **Signal To Noise Ratio +A:** ≥ 90 dB
- **Sensitivity:** 0.15V~8V
- **Distortion (THD):** $\leq 0.1\%$
- **Unit Dimensions (L H W):** 222 x 120 x 48mm (Approx. 8.74 x 4.72 x 1.89 inches)
- **Net Weight:** Approx. 1.4kg (3.09 lbs)
- **Item Model Number:** NHMD100.4
- **UPC:** 840735106628
- **Voltage:** 8 Volts (Operating Voltage Range)
- **Mounting Type:** Surface Mount

WARRANTY AND SUPPORT

Nakamichi products are designed and manufactured to the highest quality standards. For warranty information, please refer to the warranty card included with your product or visit the official Nakamichi website. For technical support, service, or inquiries, please contact your authorized Nakamichi dealer or Nakamichi customer service directly.

Please retain your proof of purchase for warranty claims.